

## WHAT IS CLAIMED IS:

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 1. A method of transferring a substrate, using apparatus comprising:

a cassette table for mounting in air a cassette which receives plural substrates to be subjected to processing or plural substrates which have been subjected to processing;

two lock chambers for carrying in and carrying out said substrates to be subjected to processing or said substrates which have been subjected to processing;

a single atmospheric transferring device for transferring, one by one, a substrate to be subjected to processing or a substrate which has been subjected to processing, between said cassette in the air and said two lock chambers; and

opening and closing devices provided respectively at a side of the air of said two lock chambers and being opened or closed every carrying-in and carrying-out of said substrate to be subjected to processing or said substrate which has been subjected to processing, so as to change over said two lock chambers to being in an atmosphere or in a vacuum, wherein the method comprises the step of:

carrying in said substrate to be subjected to processing, or carrying out said substrate which has been subjected to processing, one by one, between the two lock chambers in the atmosphere and the cassette in the air.

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2. A method of transferring a substrate according to claim 1, wherein said two lock chambers have a function of a load lock chamber or an unload lock chamber.

3. A method of transferring a substrate, using apparatus comprising:

a cassette table for mounting in air a cassette which receives plural substrates to be subjected to processing or plural substrates which have been subjected to processing;

a load lock chamber for carrying in said substrates to be subjected to processing;

an unload lock chamber for carrying out said substrates which have been subjected to processing;

a single atmospheric transferring device for transferring one by one a substrate to be subjected to processing or a substrate which has been subjected to processing, between said cassette in the air and said load lock chamber and said unload lock chamber; and

opening and closing devices provided respectively at a side of the air of said load lock chamber and said unload lock chamber and being opened or closed every carrying-in and carrying-out of said substrate to be subjected to processing or said substrate which has been subjected to processing, so as to change over said load lock chamber and said unload lock chamber to be in an atmosphere or in a vacuum,

wherein the method comprises the step of:

carrying in said substrate to be subjected to processing, or carrying out said substrate which has been subjected to

4. A method of transferring a substrate according to claim 1 or 3, wherein said cassette is maintained in a transfer installation state without a change of position, and wherein a posture of plural cassettes, which are arranged in a cassette transfer space, are installed in a single row.

5. A method of transferring a substrate according to claim 1 or 3, wherein said cassette is mounted on said cassette table according to any one of a mechanical transferring means and a manual transferring means.

6. A method of transferring a substrate according to claim 1 or 3, wherein said carrying-in and said carrying-out of said substrate are performed to carry in and carry out, one by one, according to any one of a recognition of a product information which is given to said cassette, an information which is sent from an upper rank controlling apparatus, and a demand which is inputted manually.

7. A method of transferring a substrate according to claim 1 or 3, wherein said carrying-in and said carrying-out of said substrate are performed to carry said substrate which has been subjected to processing, to an original position at which the substrate was located prior to processing.

[illegible]

506C3/ 8. A method of transferring a substrate, comprising steps of:

supplying a cassette, which receives plural substrates to be subjected to processing or plural substrates which have been subjected to processing, to a cassette table for mounting said cassette in the air;

transferring a substrate to be subjected to processing or a substrate which has been subjected to processing <sup>one by one,</sup> between the cassette and at least one of two lock chambers which carry in and carry out said substrate to be subjected to processing or said substrate which has been subjected to processing, using a single atmospheric transferring device for transferring one by one between said cassette in the air and said at least one of two lock chambers; and

opening and closing using opening and closing devices which open or close respectively at a side of the air of said two lock chambers, the opening and closing devices being opened or closed every carrying-in and carrying-out of said substrate to be subjected to processing or said substrate <sup>one by one,</sup> which has been subjected to processing, so as to change over said two lock chambers in an atmosphere or in a vacuum,

wherein between said two lock chambers in the atmosphere and said cassette in the air, said substrate to be subjected to processing or said substrate which has been subjected to processing is carried in or carried out one by one.

9. An apparatus for transferring a substrate,

comprising:

a cassette table for mounting in air a cassette which receives plural substrates to be subjected to processing, or plural substrates which have been subjected to processing;

two lock chambers for carrying in and carrying out said substrates to be subjected to processing or said substrates which have been subjected to processing;

a single atmospheric transferring device for transferring one by one a substrate to be subjected to processing or a substrate which has been subjected to processing, between said cassette in the air and said two lock chambers; and

opening and closing devices provided respectively at a side of the air of said two lock chambers and being opened <sup>and</sup> ~~or~~ closed every carrying-in and carrying-out of said substrate to be subjected to processing or said substrate which has been subjected to processing, <sup>one by one,</sup> so as to change over said two lock chambers in an atmosphere or in a vacuum,

wherein between said two lock chambers in the atmosphere and said cassette in the air, said substrate to be subjected to processing or said substrate which has been subjected to processing is carried in or carried out one by one.

10. An apparatus for transferring a substrate according to claim 9, wherein said two lock chambers have a function of a load lock chamber or an unload lock chamber.

subcy 11. An apparatus for transferring a substrate, comprising:

a cassette table for mounting in air a cassette which receives plural substrates to be subjected to processing or plural substrates which have been subjected to processing;

a load lock chamber for carrying in said substrates to be subjected to processing;

an unload lock chamber for carrying out said substrates which have been subjected to processing;

a single atmospheric transferring device for transferring one by one a substrate to be subjected to processing or a substrate which has been subjected to processing, between said cassette in the air and said load lock chamber and said unload lock chamber; and

opening and closing devices provided respectively at a side of the air of said load lock chamber and said unload lock chamber and being opened <sup>and</sup> ~~or~~ closed every carrying-in and carrying-out of said substrate to be subjected to processing or said substrate which has been subjected to processing, <sup>one by one</sup> so as to change over said load lock chamber and said unload lock chamber in an atmosphere or in a vacuum,

wherein between said load lock chamber and said unload lock chamber in the atmosphere and said cassette in the air, said substrate to be subjected to processing or said substrate which has been subjected to processing is carried in or carried out one by one.

12. An apparatus for transferring a substrate according to claim 9 or 11, wherein said cassette is maintained in a transfer installation state without a change of position, and

wherein a posture of plural cassettes, which are arranged in a cassette transfer space, are installed in a single row.

13. An apparatus for transferring a substrate according to claim 9 or 11, wherein said cassette is mounted on said cassette table according to any one of a mechanical transferring means and a manual transferring means.

14. An apparatus for transferring a substrate according to claim 9 or 11, wherein said carrying-in and said carrying-out of said substrate are performed to carry in and carry out, one by one, according to any one of a recognition of a product information which is given to said cassette, an information which is sent from an upper rank controlling apparatus, and a demand which is inputted manually.

15. An apparatus for transferring of a substrate according to claim 9 or 11, wherein said carrying-in and said carrying-out of said substrate are performed to carry said substrate which has been subjected to processing, to an original position at which the substrate was located prior to processing.